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[0001] The present invention has stroke with the use of a copolymer of olefine in a composition intended in particular for the cosmetic field. Especially, this composition is intended for the care and/or the makeup of the skin as well of the face of the human body and the lips.

[0002] This composition can be presented especially in the form of product run out of stick or cup like the red ones or balsams at lips, run make-up foundations, the products anti-rings, the make-ups with eyelids or cheeks, in the form of paste or of more or less fluid cream like fluid lipstick or make-up foundations, the eyes-liners, the products of makeup of the body (semi-permanent tattooing for example), the compositions of sunscreen or colouring of the skin, or free or compacted powders.

[0003] The products of makeup or skin care or the lips of the human beings like make-up foundations or the lipsticks, generally contain fatty phases such as wax and oils, pigments and/or loads and, optionally of the additives like active cosmetic or the dermatological ones. They can also contain said products "pasty", of flexible consistency, making it possible to obtain pastes, coloured or not.

[0004] Use of wax present certain disadvantages. In particular, the rate of crystallinity of this wax is sparingly controllable and crystallites present are large-sized. Consequently, the use of such wax in the compositions for the skin, in particular cosmetic, involves a matification of these compositions and consequently of applied film on the skin or the lips.

[0005] To cure this problem, one proposed the use of conventional polyolefins to the place of wax. But there still, the rate of crystallinity is too high and sparingly controllable. Moreover, the size and the morphology of crystallites, predominantly of type sphérulite, harm the obtaining of compositions having the desired cosmetic properties.

[0006] Moreover, these compositions of makeup, when they are applied on the skin or the lips, and in particular the coloring matters like the pigments and oils of these compositions tend to migrate, i.e. to be propagated inside the wrinkles and of the fine lines of the skin which surround the lips and the eyes, involving an unaesthetic effect. The occurrence of these traces tends to draw aside certain women of the use of this type of makeup.

[0007] There thus remains the requirement of a composition not presenting the disadvantages above, and in particular migrating step, presenting a more or less glossy appearance, adapt with the desire of the consumer, desiccant step in the course of time the skin or the lips on which she is applied and not causing discomfort.

[0008] The applicant noted, in a way completely surprising, that the use of at least an olefine copolymer with controlled and moderate, soluble or dispersible crystallization in a fatty phase, a composition for the skin or the lips made it possible to obtain a film, of very good behaviour, migrating poorly or at all, resistant with water, while being very pleasant with the application and to carry throughout the day. The film is especially flexible, flexible and nonsticky.

[0009] The copolymers with controlled and moderate crystallization, in accordance with the invention, have a specific size and a morphology of crystallites. They comprise poorly or not crystallites of type large-sized sphérulite, but on the contrary mainly of crystallites of lamellar type or fringed micelle.

[0010] The present invention thus has as an object the use in a composition for keratinous materials, comprising a liquid fatty phase, of an effective amount of at least a soluble or dispersible copolymer in the liquid, selected fatty phase among crystalline olefine copolymers having a rate of crystallinity to most equal to 50%, preferably going from 5 to 40%, and better going from 10 to 35% to limit and/or remove the migration of the aforesaid the composition.

[0011] The invention also has as an object the use in a nonmigrating composition for keratinous materials, comprising a liquid fatty phase of an effective amount of at least a soluble or dispersible copolymer in the liquid, selected fatty phase among crystalline olefine copolymers having a rate of crystallinity to most equal to 50%, preferably going from 5 to 40%, and better going from 10 to 35%.

[0012] By << liquid fatty phase >> one hears any liquid nonaqueous medium at temperature ambient (20-25 Degree C) and atmospheric pressure, and in particular oils and the solvents.

[0013] This composition is in particular a physiologically acceptable composition and especially a cosmetic composition. It thus contains ingredients compatible with the skin, including that of the scalp and of the lips, and fibres keratinous or superficial body growths.

[0014] Preferably, this composition contains, moreover, at least a coloring matter.

[0015] The olefine copolymers are present in an effective amount or sufficient to especially obtain a film of good behaviour and/or migrating step in the folds of the skin like the wrinkles, fine lines located around the lips and of the eyes (eyelids especially).

[0016] The crystalline olefine copolymers used in the composition of the present application can be very olefine copolymer, namely a copolymer comprising only olefinic patterns, having a controlled and moderate crystalline character, i.e. a rate of crystallinity to most equal to 50%, preferably going from 5 to 40%, and better going from 10 to 35%. These swollen copolymers by one or more oils << solvantes >> behave as an elastomer which one can readily introduce into a composition of the prior art in order to decrease his migration by it.

▲ top [0017] These copolymers are generally elastomers or plastomers and can be synthesized by any known process, in particular by radicalizing path, Ziegler-Natta catalysis or catalysis metallocene.

[0018] The copolymers in accordance with the invention are preferably solid at the ambient temperature (25 Degree C).

[0019] Copolymerization can be carried out in mass, solution or dispersion.

[0020] The olefine copolymers crystalline suitable in the present invention have a low melting point with 150 DEGREE C, preferably low or equal to 110 DEGREE C.

[0021] The copolymers of the invention have preferably une_masse molar average in weight $M_w \geq 30.000$ (preferably still $M_w \geq 40.000$) and an index of polymolecularity $M_w/M_n \leq 3,5$ and preferably $\leq 2,5$, M_n being the average molar mass of number.

[0022] The rate of crystallinity of copolymers is determined as that is else known by differential calorimetry with scanning (DSC) or by diffraction of the rays-X for the low rates of crystallinity.

[0023] The preferred olefine copolymers in accordance with the invention are the olefine copolymers obtained by catalysis metallocene.

[0024] This path of synthesis indeed allows a very good control of the molecular weights of copolymers and conduit a low polydispersity (Index of polymolecularity ≤ 2). It allows a very good control of the incorporation of comonomer in the chains of polymèresqui are of very adjacent chemical composition. So one obtains a very good control of crystallinity, i.e. rate of crystallinity, his reproducibility, and nature and dimension of formed crystallites.

[0025] For more details as for the benefits of this synthesis by catalysis metallocene, one will be able reporter with the articles "Emerging Technologies In Polymer Science and Engineering" (emerging Technologies in the Science and the Engineering of Polymers) M.P. ZAMORA and AI - Plastics Engineering/May 97, pages 75 to 79 and "Classification off Homogeneous Ethylene-Octene Copolymers Based one Content Comonomer" (Classification of the homogeneous Copolymers Ethylene-Octene based on the content Comonomer) S. BENSASON and AI - Newspaper off Polymer Science - Hand b: Polymer Physics - Flight. 34, 130-1315 (1996).

[0026] In olefine copolymers suitable in the present invention, the crystalline structure varies according to the amorphous comonomer rate in copolymer.

[0027] Thus, in the case of the copolymers ethylene/octene, like the article of S. describes it. BENSASON mentioned, when the content octene grows, one pass:

for a content octene $\leq 2,5\%$ in mole with else labeled crystalline structures with presence of sphérulites, refer structures of lamellar type Type IV and copolymers then show great rates of crystallinity at 50% ;

for contents octene of about 3% in mole with structures still highly crystalline, lamellar, but with smaller sphérulites (structure of type III), and copolymers a rate of crystallinity from 38 to 50% has);

then, for contents octene from 5 to 6% in mole with less crystalline structures with very poorly of sphérulites and a mixture of structures in plates with "fringed micelles" (structure of type II) and copolymers a rate of crystallinity from 28 to 38% has;

and, finally, for contents octene from 8 to 14% in mole with structures even poorly crystalline not comprising more sphérulites nor of plates, but only of "fringed micelles" (structure of type I), and copolymers a rate of crystallinity from 10 to 28% has.

[0028] The recommended copolymers for the present invention are those having the structures of types I and II.

[0029] The copolymers with structure of type IV, too crystalline, are not appropriate for the present invention.

[0030] The copolymer can be chosen by the person skilled in the art according to his properties and according to the subsequent application desired for the composition. Thus, the polymer can be filmifiable or not.

[0031] The composition such as defined above, preferably includes/understands a fatty phase liquid at ambient temperature and at least active selected among active the physiologically acceptable ones like active cosmetic the or dermatological ones.

[0032] By "volatile fatty phase", one understands any nonaqueous medium capable to evaporate skin or lips, in less than one hour at ambient temperature and atmospheric pressure. This volatile phase comprises especially oils having a vapor pressure, at ambient temperature and atmospheric pressure, nonnull, going from $10 < -3$ with Hg 300mm.

[0033] Another object of the invention is the use in or for manufacture of a composition in the form of cast and comprising product at least a physiologically acceptable liquid fatty phase and at least a wax, especially solid at ambient temperature, of a crystalline olefine copolymer having a rate of crystallinity to most equal to 50%, soluble or dispersible in the aforementioned liquid, present fatty phase in an effective amount, to obtain a film migrating step around the area where it is applied as around the lips and/or of the eyes (eyelids).

[0034] Another object of the invention is the use in or for manufacture of a composition comprising a physiologically acceptable liquid fatty phase and at least an ingredient chosen among active the physiologically acceptable ones, the coloring matters and their mixtures, of at least a crystalline olefine copolymer having a rate of crystallinity to most equal to 50%, soluble or dispersible in the aforementioned liquid, present fatty phase especially in an effective amount to obtain

a film migrating step in the folds of the skin located around the eyes and/or the lips.

[0035] The invention still has as an object a cosmetic method to limit, even remove, the migration of a composition of makeup or cosmetic care of the skin or lips, containing a liquid fatty phase and at least an ingredient chosen among the coloring matters and active physiologically acceptable especially cosmetic the, consisting one to introduce into the liquid fatty phase at least a crystalline olefine copolymer having a rate of crystallinity to most equal to 50%, soluble or dispersible in the aforementioned liquid, present fatty phase in an effective amount.

[0036] Per effective amount, one understands an amount limiting the migration of the composition in the course of time. This amount depends on the amount of oil and/or present coloring matters in the composition. In addition, the property of nonmigration increases with the amount of soluble or dispersible copolymer in the liquid fatty phase. In practice, the copolymer can represent out of active material up to 70% (out of active material or dry) of the total weight of the composition. Preferably, it represents from 0,5 to active material 70% of the composition and better from 5 to 30%.

[0037] The copolymer can be solubilized in the fatty phase of the composition by heating to the top of its melting point.

[0038] A first class of olefine copolymers crystalline, usable in the compositions in accordance with the invention, are the copolymers of alpha-olefine, in particular of alpha-olefine in C2-C16 and better in C2-C12. Preferably, these copolymers are bi- or terpolymers and particularly bipolymères.

[0039] Among the recommended bipolymères for the compositions of the invention, one can quote the bipolymères of ethylene and alpha-olefine in C4-C16, preferably in C4-C12 and the bipolymères of propylene and alpha-olefine in C4-C16, preferably in C4-C12. Preferably still, the alpha-olefine is selected among butene-1, pentene-1, hexene-1, octene-1, the nonène-1, the décène-1, the undécène-1, the dodécène-1, the 3,5,5-triméthylhexène-1, 3-méthylpentène-1, and 4-méthylpentène-1.

[0040] Among these monomers, the butene-1 and the octene-1 are particularly preferred.

[0041] The recommended bipolymères are the elastomers having a going rate of crystallinity from 10 to 35%.

[0042] These bipolymères is preferably synthesized by catalysis metallocène.

[0043] Such bipolymères is marketed by Company DOW CHEMICAL under the commercial denominations << AFFINITY >> (plastomers) and << ENGAGE >> (elastomers).

[0044] Bipolymères ethylene-butene are marketed by Company EXXON under commercial name << EXACT RESINS >> and by company ELENAC under commercial name << LUFLEXEN >>.

[0045] Among terpolymers, one can quote terpolymers of ethylene, of propylene and alpha-olefine in C4-C16, preferably C4-C12.

[0046] In these terpolymers, the contents alpha-olefine in C4-C16 are like indicated previously and the alphas - preferred olefines are the butene, hexene and the octene.

[0047] One second class of olefine copolymers suitable for the invention are the copolymers of ethylene or propylene and a cyclooléfine, in particular the bipolymères.

[0048] Generally, the content of cyclooléfine of copolymers is low to 20% in mole.

[0049] Among the usable cyclooléfines, one can quote cyclobutene, cyclohexene, cyclooctadiene, the norbornene, dimethano-octahydronaphtalene (DMON), the ethylidene norbornene, the vinyl norbornene and the 4-vinylcyclohexene.

[0050] The recommended copolymers of this class are the copolymers of ethylene and norbornene. The content of norbornene of these copolymers is generally low to 18% in mole to present the required crystalline character and these copolymers are synthesized by catalysis metallocène.

[0051] Suitable copolymers ethylene/norbornene are marketed by Companies MITSUI PETROCHEMICAL or MITSUI-SEKKA under the commercial denomination << CALL >> and by Company HOECHST-CELANESE under the commercial denomination << TOPAS >>.

[0052] Other copolymers of ethylene/cyclooléfine recommended are the bipolymères ethylene/cyclobutene and ethylene/cyclohexene with low content of cyclooléfine, generally low to 20% in mole.

[0053] A third suitable olefine copolymer class is consisted olefine copolymers of controlled tacticity, i.e. copolymers comprising of the patterns of different tacticity.

[0054] Among these copolymers of controlled tacticity, one can quote the copolymers isotactic propylene/ataxic propylene and atactic syndiotactic propylene/propylene.

[0055] The syndiotactic patterns or Iso sequences or confer on copolymer the crystalline character, however that the amorphous patterns or atactic sequences prevent a too strong crystallinity of copolymer and regulate the rate of crystallinity as well as the morphology and the size of crystallites.

[0056] The content of Iso patterns or syndiotactic, patterns conferring the crystalline character on copolymer, is thus determined to obtain the desired percentage of crystallinity ($\leq 50\%$) in copolymer.

[0057] The content of tactical patterns is generally included/understood in the range going from 10 to 80% of mole. However, preferably, the content of tactical patterns is low to 30% in mole.

[0058] These copolymers are synthesized by catalysis metallocène.

[0059] A fourth olefine copolymer class suitable for the present invention, is consisted copolymers of monoolefin and monomer with connection (S) ethylenic (S) such as dienes, for example the bipolymères ethylene/butadiene, propylene/butadiene, ethylene/isoprene and propylene/isoprene, and the terpolymers ethylene-propylenes/diene, obtained

also by synthesis metallocene.

[0060] The proportion of patterns << ethylene >> or << diene >> in copolymer with controlled crystallization is generally included/understood in the range going from 3 to 20% in mole.

[0061] To improve the adjustment of the crystallinity of copolymer, one can optionally add to the composition in accordance with the invention additives obstructing crystallization. These additives, although used in low proportion, constitute << sites >> of many and small germination distributed uniformly in the mass. These additives are typically crystals of an organic substance or inorganic.

[0062] One can also adjust the rate of crystallization, the size and the morphology of olefine copolymers in accordance with the invention by mixing a first copolymer of olefines in accordance with the invention with a second polymer or crystalline, compatible copolymer partly with the first copolymer of olefines. The second polymer or copolymer can be a copolymer of olefines in accordance with the invention, but of different rate of crystallinity of that of the first copolymer, including a rate of crystallinity higher than the rate of crystallinity of olefine copolymers in accordance with the invention.

[0063] The second crystallizable polymer can also be a polymer of different nature, for example a copolyethylene/vinyl acetate obtained by radicalizing or same copolymerization a crystallizable polyethylene such as those usually used in the cosmetic field.

[0064] For more details as for this method of adjusting of the rate of crystallinity, one will off refer to the articles entitled "Elastomeric blends homogeneous ethylene-octene copolymers (elastomeric homogeneous copolymer Mixtures ethylene-octene)" S. Bensason and Al, Polymer, Volume 38, NR DEG 15, 1997, pages 3913-19, and "Blends of homogeneous ethylene-octene copolymers (homogeneous Copolymer mixtures ethylene-octene)" S. Bensason and Al, Polymer, Volume 38, NR DEG 14, 1997, pages 3513-20.

[0065] The liquid fatty phase in which the copolymer is dispersed can includes/understands one or more oils cosmétique or dermatologiquement acceptable, and in a physiologically acceptable, especially selected general way among oils of origin inorganic, animal, vegetal or synthetic, carbonaceous, hydrocarbon-base, fluorinated and/or siliconées, or in mixture insofar as they form an homogeneous mixture and stable and where they are compatible with the use considered.

[0066] One can thus quote hydrocarbon-base oils of animal origin like perhydroqualene, the oil of mink or tortoise; linear or ramified hydrocarbons inorganic or synthetic origin as the vaseline or paraffin oil, the hydrogenated polyisobutylene (parléam), the isododécane, polydecene or the "ISOPARS", volatile isoparaffins; hydrocarbon-base oils of plant origin like liquid triglycerides of fatty acids in C4 with C10 like soya, the oil of mild almond, capophyllum, of palm, pips of grape, sesame, corn, of will arara, rapeseed, sunflower, cotton, apricot, castor, lawyer, jojoba, olive or cereal germs; esters of acid lanolic, oleic acid, lauric acid, stearic acid; the fatty esters and ethers such as esters and ethers derived from acids or alcohols with long chain (i.e. having from 6 to 30 carbon atoms), especially the esters of formula RCOOR', in which R represents the residue of a great fatty acid comprising from 7 to 19 carbon atoms, and R' represents an hydrocarbon-base chain comprising from 3 to 20 carbon atoms, such as palmitates, adipates and benzoates, especially the adipate of diisopropyl, the myristate, the isopropyl palmitate, butyl the stearate, hexyl the laurate, the isononanoate of isononyl, the 2-ethyl-hexyl palmitate, it laurate of 2-hexyl-decyl, palmitate of 2-octyl-decyl, the myristate or lactate of 2-octyl-dodecyl, the 2-diethyl-hexyl succinate, the malate of diisostéaryle, the trimellitate of tridécylole, the trisostéarate of glycerin or diglycérine; great fatty acids with at least 12 carbon atoms such as the myristic acid, the palmitic acid, the stearic acid, the behenic acid, the oleic acid, the linoleic acid, the linolenic acid or the isostearic acid; great fatty alcohols with at least 12 carbon atoms such as stearyl alcohol or oleic alcohol, linoleic or linoleic alcohol, isostearic alcohol or the octyl dodécanol; oils siliconées such as polydiméthylsiloxane (PDMS) linear or cyclic, volatile or not; phenylated PDMS such as the phényltriméthicones, phényltriméthylsiloxylodiphényl-siloxanes, the diphenylméthyl diméthyltrisiloxanes, the diphenyl-diméthicones, the phényl diméthicones, the polyméthylphénylsiloxanes; PDMS substituted by groupings aliphatic and/or aromatic, optionally fluorinated, or by functional groupings such as groupings hydroxyl, thiol and/or amine; polysiloxanes modified by fatty acids, fatty alcohols or polyoxyalkylenes in particular of polyoxyethylenes or copoly (oxyéthylène - oxypropylène) S such as the diméthicone-copolyols, silicones supporting at the same time hydrocarbon-base hydrophobic groups (for example of the alkyl groups in C2-C30) and sequences or grafts polyoxyethylenes or copoly (oxyéthylène/oxypropylène) such as alkyl-diméthicone-copolyols; silicones fluorinated or perfluorinated such as the polydiméthyl siloxanes alkylated perfluoroalkyls and the polyméthylphénylsiloxanes perfluoro; fluorinated and especially perfluorinated oils; their mixtures.

[0067] Preferably, one can use one or more volatile oils at ambient temperature. After evaporation of these oils, one obtains a flexible, nonsticky film forming deposit on the skin or the mucosa, respectively following the movement of the skin or the lips, on which the composition is applied. These volatile oils facilitate, moreover, the application of the composition on the skin, the mucosa, the superficial body growths.

[0068] These oils can be hydrocarbon-base oils, oils silicones comprising optionally groupings alkyl or alkoxy at the end of the chain siliconée or pendent.

[0069] Like oils usable volatile silicone in the invention, one can quote linear or cyclic silicones having from 2 to 7 silicon atoms, these silicones optionally comprising groups alkyl or alkoxy having from 1 to 10 carbon atoms as well as isoparaffins in C8 with C16 and oils fluorinated or perfluorinated volatile. These volatile oils represent especially from 30 to 97.99% of the total weight of the composition, and better from 30 to 75%.

[0070] Like oils volatile usable in the invention, one can especially quote the octaméthylcyclotétrasiloxane, the décaméthylcyclopentasiloxane, the dodécaméthylcyclodécahexasiloxane, the heptaméthylhexyltrisiloxane, the heptaméthylcyclotrisiloxane or isoparaffins in C6-C16 such as the "ISOPARS", PERMETYLS and especially the isododécane or the isohexadécane, and their mixtures.

[0071] Like oil, one can also quote solvents, used single or in mixture, chosen among:

(I) linear, ramified or cyclic esters, having more than 6 carbon atoms,

- (II) ethers having more than 6 carbon atoms,
- (III) ketones having more than 6 carbon atoms.

[0072] The choice of the nonaqueous medium is carried out by the person skilled in the art according to the nature of the monomers constituting copolymer.

[0073] Moreover, the liquid fatty phase in which is dissolved or dispersed copolymer can represent from 5% to 97.99% of the total weight of the composition, and preferably from 30 to 75%.

[0074] The composition can include/understand a coloring matter containing one or more pulverulent compounds and/or one or more liposoluble dyes, for example at a rate of 0.01 to 70% of the total weight of the composition. The pulverulent compounds can be selected among the pigments and/or mother-of-pearl and/or the loads usually used in the cosmetic compositions or dermatological. The pulverulent compounds can represent from 0.1 to 98% of the total weight of the composition, and for example from 1 to 80%. Preferably these pulverulent compounds represent from 0.1 to 40%, and better from 1 to 30%.

[0075] The pigments can white or be coloured, inorganic and/or organic. One can quote, among the inorganic pigments, the titanium dioxide, optionally treated in surface, zirconium oxides or of cerium, as well as iron oxides or of chromium, the manganese Violet, the blue overseas, the hydrate of chromium and the blue ferric one. Among the organic pigments, one can quote the carbon black, the pigments of type D & C, and the lacquers containing carmine of cochineal, of barium, strontium, calcium, aluminium.

[0076] The pearlescent pigments can be selected among the white pearlescent pigments such as the mica covered with titanium, or bismuthinite oxychloride, the pearlescent pigments coloured such as the mica titanium with iron oxides, the mica titanium with especially of blue ferric or chromium oxide, the mica titanium with an organic pigment of the mentioned type as well as the pearlescent pigments containing bismuthinite oxychloride.

[0077] The loads can be inorganic or organic, lamellar or spherical. One can quote talc, the mica, silica, the kaolin, the powders of Nylon (Orgasol from Atochem), of poly-B-alanine and polyethylene, the Teflon, the lauroyl-lysine, the starch, the boron nitride, the polymer powder of tetrafluoroethylene, the hollow microspheres such Expancel (Nobel Industrie), the polytrap (Dow Corning) and the silicone resin microbeads (Tospearls from Toshiba, for example), the calcium carbonate precipitate, the magnesium carbonate and hydrogène-carbonate, the hydroxyapatite, the hollow microspheres of silica (Silica Beads de Mapecos), the microcapsules of glass or of ceramic, metallic soaps derived from organic carboxylic acids having from 8 to 22 carbon atoms, preferably from 12 to 18 carbon atoms, for example the zinc stearate, of magnesium or lithium, the zinc laurate, the magnesium myristate.

[0078] The loads used, in particular the organic fillers of polymeric nature, can be crosslinked or not and contain inside the physiological and especially cosmetic or dermatological particles one or more active being able to be released on the skin or the lips after application of the composition.

[0079] The pigments and the loads can or not be coated superficially, in particular treated in surface by aminated silicones, acids, fluorinated derivatives or any other substance supporting the dispersion and the compatibility of the pigment in the composition.

[0080] The liposoluble dyes are for example red Sudan, cd. Red 17, cd. Green 6, the B-carotene, the oil of soya, brown Sudan, cd. Yellow 11, cd. Violet 2, cd. orange 5, the yellow quinoline. They can represent from 0.01 to 20% of the weight of the composition and better from 0.1 to 6%.

[0081] The copolymer of the composition of the invention allows the formation of a film on the keratinous materials and especially the skin and the lips, forming a network trapping the coloring matters and/or the active ones. According to the relative amount of coloring matters, used compared to the amount of polymer stabilized, used, it is possible to obtain a more or less glossy and more or less migrating film.

[0082] Like active usable in the composition of the invention, one can quote the moisturizing ones, vitamins, essential fatty acids, sphingolipids, filters solar, antioxidants, the agents anti-acne, alleviating, bronzing (in the absence of UV radiation), the agents dépigmentants, mâtifiants and their mixtures. These active is used in usual amount for the man and especially with concentrations from 0.001 to 20% of the total weight of the composition.

[0083] The composition in accordance with the invention can, moreover, to include/understand, according to the application type considered, the components conventionally used in the fields considered, which are present in an appropriate amount with the desired Galenic form.

[0084] In particular, it can include/understand, in addition to, the liquid fatty phase in which the polymer is solubilized or dispersed, of the additional fatty phases which can be selected among wax, oils, gums and/or the fatty bodies pasty, of plant origin, animal, inorganic or of synthesis, even silicones, and their mixtures.

[0085] Among solid wax with ambient temperature, capable to be present in the composition of the invention, one can quote wax having a melting point great with 45 DEGREE C like hydrocarbon-base wax such as beeswax, the carnauba wax, of Candellila, Oricoury, of Japan, the wax of fibres of cork or cane with sugar, the paraffin wax, of lignite, the microcrystalline wax, the wax of lanolin, the wax of Montan, ozokerites, the polyethylene wax, the wax obtained by synthesis of Fischer-Tropsch, hydrogenated oils (jojoba, castor), the esters of acids fatty like stearate of octa-cosanyle. One can also use silicone wax, among which one can quote alkyl, alkoxy and/or esters of polyméthylsiloxane, the chains alkyl, alkoxy and ether having from 2 to 40 carbon atoms.

[0086] Among the pasty fatty bodies, one can quote the lanolin and his derivatives (acetylated especially), the PDMS having a chain alkyl in C8 with C24, the silicone esters. These fatty bodies have a melting point going from 25 to 45 DEGREE C and represents especially from 0 to 50% of the weight of the composition.

[0087] The wax can be present at a rate of 0.50% in weight in the composition and better from 10 to 30%.

[0088] The composition can include/understand, moreover, any additive usually used in such compositions, such as

thickeners, perfumes, conservatives, the surface-active ones. Of course the person skilled in the art will take care to choose this or these optional complementary compounds, and/or their amount, of manner such as the beneficial properties of the composition in accordance with the invention, or, are substantially not deteriorated by the addition considered.

[0089] Among thickeners, one can quote bentonites, silicas treated, alkylated gums of guar liposoluble, block polymers or grafted comprising at least a soluble sequence in the composition and an insoluble sequence such as, for example, the copolymers Bi or trisquences polystyrene/copoly (ethylene-propylene) or polystyrene/copoly (ethylene-butylene), them (polyvinyl) pyrrolidone/hexadiene, the silicone gums and the silicones of type KSG.

[0090] The silicone gums in general have an average molar mass of number ranging between 200.000 and 1.000.000. As example of silicone gums which can be used single or in the form of mixture in a solvent, one can quote following copolymers:

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poly [(diméthylsiloxane)/(méthylvinylsiloxane)]  
poly [(diméthylsiloxane)/(diphénylsiloxane)]  
poly [(diméthylsiloxane)/(phénylméthylsiloxane)]  
poly [(diméthylsiloxane)/(diphénylsiloxane)/(méthylvinylsiloxane)] ;  
and following mixtures:
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formed mixtures starting from an hydroxylated polydiméthylsiloxane at the end of the chain and of a cyclic polydiméthylsiloxane;

formed mixtures starting from a gum of polydiméthyl siloxane and a cyclic silicone; and mixtures of two polydiméthylsiloxanes of different viscosities.

[0091] The compositions in accordance with the invention can moreover contain homopolymers and copolymers liposoluble and/or dispersible in the fatty phase, different of olefine copolymers with crystallization controlled in accordance with the invention.

[0092] Among these homopolymers and copolymers, one can quote polyolefins or polyalkylenes such as polyethylene, polybutene and polydecene, copolymers of esters and/or amides (méth) acrylic; vinylic ester copolymers, for example of the copolymers ethylene/vinyl acetate; homopolymers or copolymers vinylic or (méth) acrylic supporting optionally a grouping silicone such as for example of grafted copolymers with backbone (méth) acrylic and silicone macromer grafts; copolymers with backbone or sequences (méth) acrylic and with hydrocarbon-base grafts or sequences, for example polyisobutylene; grafted or sequenced copolymers with backbone or sequence polyorgano-siloxane and grafts or sequences (méth) acrylic and/or vinylic; homopolymers or copolymers fluorinated or perfluorinated, for example of perfluorinated polyethers such those marketed under designation << Fomblins >>, of the homo or copolymers (méth) acrylic perfluorinated, of the fluorinated homo or vinylic copolymers, the homo or olefine copolymers fluorinated and of the poly (ether vinylic) fluorinated, polyvinylpyrrolidone derivatives or copolymers.

[0093] The compositions to which applique the invention can be prepared of conventional manner by the person skilled in the art. It can be presented in the form of a cast product and for example in the shape of a stick or stick, or in the shape of cup usable by direct contact or sponge. In particular, they find an application as a run make-up foundation, make-up with cheeks or with eyelids run, lipstick, bases or balsam of care for the lips, product anti-rings. They can be also presented in the form of a flexible paste or of freezing, of more or less fluid cream. They can then constitute make-up foundations or lipsticks, products solar or of colouring of the skin, eyeliners, products of makeup of the body. As an indication, a more or less fluid cream can be characterized by a low Newtonian viscosity with 10 Pa.s, a flexible paste by a low Newtonian viscosity with 50 Pa.s and a gel is in general thicker and can be characterized by an angle of dephasing low to 45 DEG on the linear viscoelastic tray. These measurements are carried out on a rheometer Haake the RS75 with mobile most adapt with the studied texture.

[0094] The compositions of the invention are preferably anhydrous and can contain less than water 5% compared to the total weight of the composition. They can then be presented especially in the form of oily freezing, of liquid oil or oils, paste or stick. These Galenic forms are prepared according to conventional methods of the fields considered.

[0095] The compositions in accordance with the invention can also preferably be presented in the form of emulsion water-in-oil, oil-in-water or water-in-wax, in which the olefine copolymers in accordance with the invention are used to replace whole or part of usually present wax in these emulsions. In particular, the wax can includes/understands at least an olefine copolymer in accordance with the invention and at least an oil, volatile or not. The composition of the invention can be also presented in the form of vesicular dispersion containing of the ionic and/or nonionic lipids.

[0096] These compositions can especially constitute a cosmetic composition of protection, treatment or care for the face, the neck, or the body, a composition of makeup or a composition of artificial tanning.

[0097] The following examples, nonrestrictive, illustrate the present invention.

Example 1: nonmigrating lipstick.

Octyl dodécanol 27 G
Tridécyil trimellitate 11,5 G
Acetylated lanolin (pasty) 17,5 G
hydrogenated Poly-isobutylene 15 G
Exact 4049 1 G
Polyethylene 7 G
Stearate of octa-cosanyle 4%
Copolymer of PVP/eicosène 2%
Pigments 15%

Example 2: nonmigrating lipstick.

Engage 8400 18%
Pigments (iron oxides) 6%
Isododécane 50%
Oil parléam 26%

[0100] The evaporation of volatile oil allows the obtaining of a film whose viscoelastic properties are modelables by the fraction of remaining plasticizer oil.

Example 3: nonmigrating lipstick.

Engage 8400 9%
Pigments (iron oxides) 8%
Oil parléam 83%

[0102] This composition of example 3 was compared with single compositions according to the prior art containing respectively of SiCl₄ (against example 1), of polyethylene wax of average molecular weight of 500 (against example 2). Against example 2 is considered by the persons of the trade (formulateurs into cosmetic) nonmigrating.

[0103] Composition 3 was also compared with a lipstick out of available stick on the market: << Red Virtuale >> marketed by the OREAL, containing 8% of pigments, hydrocarbon-base oil 64,2% and esters, 16,1% of silicone oil, 10,5% of a wax mixture, 0,9% of loads, an effective amount of conservatives and 0,2% the active cosmetic ones. This composition noted against example 3, is regarded as migrating by the persons of the trade.

[0104] The migration is measured on paper Whatman NR DEG 1 and using a small spatula, one carries out 10 striations on a range of 15x15 mm² perpendicularly with largest dimension, 3,75 mg (that is to say 5mg/cm²) of composition to be tested are applied with the paint brush on a range of 15 X 5 mm². The rear face of the paper support is then soaked with 2 drops of artificial sebum, preserved at the freezer, container: triolein 45%, squalene 19%, cholesterol 5% and 31% of oleic acid.

[0105] The carrier is then rolled up on him same in order to simulate the pendent movement of the lips 4 min. The striations open and are closed again inducing a phenomenon of capillarity then: the phase coloured can at the time migrating. The presence of artificial sebum is necessary as well as the movements to cause this migration.

[0106] From photographs with a Polaroid with enlargement 3 of the paper supports, one mark contours of the phase coloured before and after movements imposed with the carrier. The migration is then defined like the ratio between the surface of migration and the surface before migration, is:

Migration = surface after movement - surface before movement DIVIDED surface before movement

[0107] The results presented are the average of 10 tests, uncertainty on the given values is 10%.

<Tb> < COUNT> Columns=2
<Tb> Example 3< SEP> 0,2
<Tb> Against example 1< SEP> 0,9
<Tb> Against example 2< SEP> 0,8
<Tb> Against example 3< SEP> 0,4
<Tb> < /TABLE>

[0108] The coloured phase of composition 2 in accordance with the invention migrates 3 times less than that of against examples 1 and 2, and 2 times less than that of a lipstick of the trade. One can thus deduce from it that the properties of nonmigrations will be exacerbated even in a lipstick out of stick than in a lipstick in cream or paste.

[0109] With the same compositions, the inventors one studied the migration of the fatty phase. They have for that, applied on a disc of 15 mm formed diameter on a paper backing handkerchief, 8,8 mg of composition to be tested. The application is adjacent of 5mg/cm². They carried out 10 deposits of composition for each sample. The carriers were kept pendent 12 hours in a drying oven with 34 DEGREE C.

[0110] By transparency, there is measured the diameter of the new disc. The migration is at the time defined like the ratio:
(diameter of the disc after migration)< 2> - (diameter of the disc before migration)< 2> DIVIDED (diameter of the disc before migration)< 2>

[0111] The results are given with an uncertainty of 10%.

<Tb> < COUNT> Columns=2
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<Tb> Against example 1< SEP> 3,5
<Tb> Against example 2< SEP> 3
<Tb> Against example 3< SEP> 3,3
<Tb> < /TABLE>

[0112] The migration of the fatty phase is less substantial for composition 2 in accordance with the invention than for the other gelled compositions.